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ABSTRACT

The study involving 18 moderately retarded adolescents attending a public high school program assessed the usefulness of a behavioral weight reduction program. The behavior treatment involved exposure of Ss to external and self-reinforcement, stimulus control, simplified self monitoring and exercise over a 14-week active training period. Behavior therapy Ss lost significantly more weight than a wait-list control group. There was no significant difference in weight lost between behavior therapy Ss exposed to the techniques live and those exposed to the techniques via video tape playback of the live sessions. Weight loss for the behavior therapy Ss continued to occur during a 5-week maintenance and 16-week followup. (Author/SBH)

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Fat Chance in a Slim World

or A Behavioral Weight Program

for Trainable Adolescents

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Most recently, attention has been directed towards the successful use of behavioral approaches to weight control with mentally retarded adults (Foreyt & Parks, 1975; Joachim & Korboot, 1975; Rotatori, Fox, & Switzky, 1977; Staugaitis, 1978). In spite of the success of the above studies, limited emphasis has been directed towards demonstrating the effectiveness of behavioral approaches to weight control with moderately retarded adolescents (Rotatori, Fox, & Switzky, 1978). This is unfortunate because the majority of overweight adults were overweight children. Thus, the purpose of the present study was to assess whether a multicomponent behavioral weight reduction treatment program could produce weight loss in moderately retarded adolescents who lived with their parents.

Method

Subjects

Eighteen moderately retarded adolescents who were attending a public high school program were referred to participate in a weight reduction program by their teachers. All subjects lived at home with their parents. The following selection criteria were met by all subjects: (a) were not presently under a physician's care for weight loss, (b) were at least 10% overweight (Robinson, 1967), (c) expressed an interest in losing 10 pounds, (d) had an IQ in the moderately retarded range, and (e) had parental permission to participate in the program. The subjects were randomly assigned to one of two behavioral therapy groups or a wait-list control group. Table 1 indicates age, IQ test scores and initial percent overweight of the three groups.

Insert Table 1 about here

Krusal-Wallis H. test comparing ages, IQ test scores and initial percent overweight were calculated to assure that the random assignment procedures did not result in any systematic intergroup differences with regard to these variables. No significant differences between the three groups on these variables were found (H = 4.33 for age, H = 5.50 for IQ, and H = 3.55 for percent overweight, $p > .05$).

Procedure

Wait-list Control

The control subjects were informed that the weight reduction program was already filled but another weight program would be started. The wait-list control group subjects were encouraged to lose weight on their own and informed that their weight would be periodically checked.

Behavior Therapy

Role of the Parents

An inservice meeting was held for the parents of the subjects prior to the start of the 14-week active treatment phase. A model of the treatment package was related as well as the techniques to be trained. At this time, parents were informed of their role. Specifically, parents were asked to assist their child in carrying out each technique as well as supervise completion of self-monitoring forms. Parents were responsible for administering the home reinforcement for weight loss during the active and maintenance phases of treatment.

Active Treatment Phase (14 weeks)

The behavior therapy subjects were sequentially exposed to the following techniques: self-monitoring procedures (e.g., recording daily weight and food intake), food cue elimination techniques (e.g., eating in one place, taking only one helping), changing the act of eating (e.g., eating slower,

chewing food completely, putting utensils down on the table between bites), the use of energy to burn up unneeded calories (e.g., engage in daily calisthenic period, run to store rather than walk) and engaging in alternative activities to eating (e.g., listening to records or make a telephone call to a friend instead of snacking). The techniques were first verbally described by the diet leader (first author). The rationale for each technique was described as well as procedures for implementing it. Then the diet leader demonstrated the technique in a simulated scene. Next, the subjects rehearsed the technique with feedback being provided by the diet leader. Instruction on the techniques was provided three times a week. One group of subjects (Behavior Therapy Group I) was always exposed to the techniques live, whereas subjects in Behavior Therapy Group II were exposed to the techniques via a video tape playback of the "live session".

All subjects received home and school reinforcement for completion of daily self-monitoring records and for losing one or more pounds during a week's period. Home and school reinforcement consisted of contracted activity rewards (e.g., going bowling, a short field trip, going to a friend's house) for losing a pound or more since the previous week's weight.

Subjects were instructed in self-reinforcement for engaging in the techniques trained. Daily subjects rated their performance on the techniques. Points were assigned to each rating and total points earned lead to a grade. The grade then was exchanged for an envelope which contained activity and covert awards. The activity awards were tailored to fit the subject's preference as to what was reinforcing for that subject (e.g., watching TV, playing a card game). Covert awards consisted of the subjects verbalizing positive praise for using the techniques trained (e.g., I'm doing just fine on my diet).

Maintenance Condition

Both Behavior Therapy groups participated in a five-week maintenance phase. The maintenance meetings were the same for both groups. The meetings (two a week) consisted of the subjects viewing a video tape of the "live training sessions," the checking of the subject's self-monitoring forms and the administration of school reinforcement.

Results

Active Treatment Phase (14 weeks)

Figure 1 presents the weight loss or gain of the weight groups in pounds during various experimental phases. A Kruskal-Wallis H test comparing percentage weight change of the three groups yielded a significant difference ($H = 8.17$, $p < .02$). A Protected Rank-Sum test revealed that there was no significant difference between Behavior Therapy group 1 and group 2. In contrast, both Behavior Therapy groups differed significantly from the Wait-list control group. Subjects in the Behavior Therapy groups 1 and 2 had a mean weight loss of 11.00 and 9.45 pounds with a weekly average weight loss of .78 and .68 pounds per subject, respectively. In contrast, subjects in the Wait-list control group had a mean weight gain of 4.00 pounds with a weekly average weight gain of .28 pounds per subject.

Maintenance Phase (5 weeks)

The percentage weight change of the three groups as assessed by a Kruskal-Wallis H test revealed a significant difference ($H = 15.43$, $p < .01$). A Protected Rank Sum test indicated no significant difference between the Behavior Therapy groups. However, both Behavior Therapy groups differed significantly from the Wait-list control group. Subjects in Behavior Therapy groups 1 and 2 had a mean weight loss of 1.96 and 2.58 pounds with a weekly

average weight loss of .39 and .51 pounds per subject, respectively. Subjects in the Wait-list control group had a mean weight gain of 1.16 pounds with a weekly average weight gain of .23 pounds per subject.

Follow-Up Outcome (16 weeks)

Sixteen weeks after the last maintenance session, a follow-up assessment was made. A Kruskal-Wallis H test comparing percentage weight change of the three groups resulted in a significant difference ($H = 18.74$, $p < .01$). A Protected Rank Sum revealed no significant difference between the Behavior Therapy group. On the other hand, both Behavior Therapy groups differed significantly from the Wait-list control group. Behavior Therapy subjects in group 1 and group 2 had a mean weight loss of 2.33 and 1.63 pounds with a weekly average weight loss of .14 and .110 pounds per subject, respectively. The Wait-list control group had a mean weight gain of 3.16 pounds with a weekly average weight gain of .19 pounds per subject.

Discussion

The weight loss achieved by the Behavior Therapy subjects at the end of the active treatment phase lends support to previous successful behavioral weight studies (Bellak, 1977; Leon, 1976; Rotatori, Fox, & Switzky, 1977; Stuart, 1975; Stunkard, 1975). During the active treatment phase, the Behavior Therapy groups achieved an average weekly loss of .78 and .68 pounds per week, respectively. This weekly weight loss approaches the average weight loss reported in a number of successful studies (Bellak, 1977; Hall, 1972; Lean, 1976).

A maintenance phase is being used increasingly in behavioral weight reduction programs to promote continued weight loss after the formal active treatment phase ends (Rotatori, Fox, & Switzky, 1978). In the present

study, subjects in both Behavior Therapy groups continued to lose weight. However, the average weekly weight loss per subject was not as great as the loss attained during the active treatment phase.

The follow-up assessment revealed that 10 of the 12 Behavior Therapy subjects continued to lose weight. Seven of the Behavior Therapy subjects had over a 10% weight loss and four subjects had a weight loss between 6% to 9%. The latter findings are clinically important when one considers the tendency of dieters to regain weight after treatment terminates (Stuart & Guire, 1978). Also the findings are clinically important due to the present data as well as other research (Rotatori, Fox, & Switzky, 1977) which revealed that when overweight retarded individuals are encouraged to lose weight on their own, a noted weight gain occurs.

No significant differences between the two Behavior Therapy groups were revealed at the end of various treatment phases. Thus, the use of the video tape training sessions reduced therapist training time without decreasing program effectiveness. Also, the video tape became a permanent training product for future behavioral weight programs at the school.

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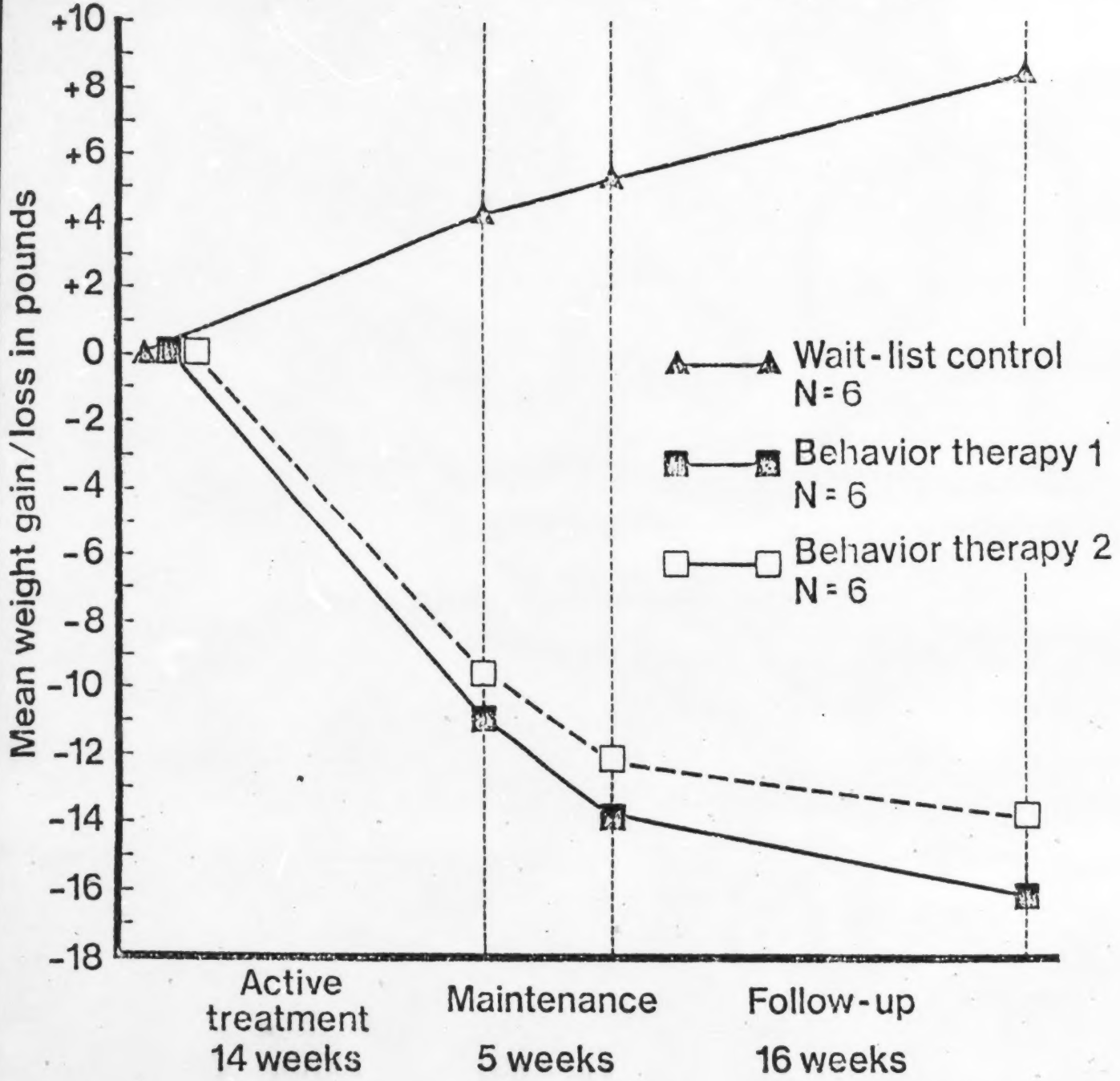
Table 1

Ages, IQ's and percent overweight for the Behavior Therapy and Control Group Subjects

Group	N	Ages in Years		IQ		Percent Overweight	
		X	SD	X	SD	X	SD
Behavior Therapy 1	6	17.50	1.60	44.10	3.30	20.20	10.90
Behavior Therapy 2	6	18.10	1.52	45.40	3.60	19.90	9.99
Wait-List Control 1	6	17.70	1.70	44.78	3.10	20.61	10.50


+10
+8
+6
+4
+2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
Mean weight gain/loss in pounds
Wait-list control
N = 6
Behavior therapy 1
N = 6
Behavior therapy 2
N = 6
Active treatment 14 weeks
Maintenance 5 weeks
Follow-up 16 weeks